POST-INTERNET QUEER REPRODUCTIVE WORK AND THE FIXED CAPITAL OF FERTILITY

The interface, the network and the viral
as themes and modes of artistic response

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ABSTRACT

This research considers the digital infrastructures and interfaces of the Assisted Reproductive Technologies (ARTs) industry as a depository for human memory and a powerful translation zone where beliefs regarding social and biological reproduction are fashioned today. Offering an innovative take on the dynamic interaction between sexuality and digital technologies, this thesis sets out how queer reproduction struggles, as evidenced in the long history of pathologizing queer parenting structures and the networks of care forged during the HIV/AIDS crisis, are not just a glimmer haunting the IVF-centred heteronormative fertility clinic but structurally linked across the systems of accumulation that order capitalist expansion.

The concept of "post-internet queer reproductive work" fuses three scholarly traditions: the study of *queer work*, theorizations of *reproductive labor* and the concept of *fixed capital*. Chapters 1-4 define and mobilise these concepts, suggesting how they interact and inform each other in the context of the financialized fertility market, with a focus on the facial-matching algorithm boom in Spain and European clinic and bank websites. Post-internet queer reproductive work is further elaborated on through close readings of 1970s UK lesbian magazine *Sappho*, who published poetry and operated as a network for resource sharing across disability, sexuality, race and class struggles, and *Gay Gamete* (2000), a work of Net Art by U.S artist Clover Leary that protested an FDA protocol regulating gamete donation according to sexuality and sexual practices. Beyond historical examples, the concept of post-internet queer reproductive work attends analytically to the processes through which the social knowledge accumulated in queer reproduction struggles is incorporated as the fixed capital and "digital machines" of the global fertility market.

Chapters 5-6 contextualise the artistic dimension of this thesis as it is constituted by an animation film, a Net Art work, a poetry book and ongoing editorial project *Them, All Magazine*, which brings together poetry, critical writing and Net/Code/Software Art on the subject of reproductive politics and sexuality. Broadly, this research proposes a reclaiming of the interface, network and viral as themes and modes of artistic response to reproductive control. While the interface, network and viral are staple topics in the fields of Software Studies and Visual Studies of the Internet, they have not been a main

concern for Feminist Social Reproduction Theory or related studies of assisted reproduction. On the other hand, social reproduction struggles and sexuality have not always been at the center of studies of the interface, the network and the viral. This thesis is an original contribution to the interdisciplinary field of reproduction studies by developing a Queer Marxist perspective on assisted reproduction, fixed capital and reproductive labor –and their intersections– and by presenting post-internet art works and practices as modes of response to reproductive control. Layering critical, sociological, historical, audiovisual, editorial, auto- and poetic gazes, this thesis develops an interdisciplinary mode of "gestural writing" as a method and *way of knowing* that centres bodily feeling and political becomings.

Chapter 4
THE VIRAL AND THE HIV/AIDS CRISIS

I'm calling you on this line /
which they have made for us /
love we could our perverse plan /
[…] we form gangs and infect

Francisco Casas,
"SODOMA EN ALGUNA PARTE", (1991, p.14)

REPRO-SEXUAL INTERSECTIONS
AT THE LEVEL OF THE INTERFACE

This chapter reaches beyond the commercial interfaces and algorithms of assisted reproduction to consider how a work of Net Art, entitled *Gay Gamete* (2000), responded to a specific U.S Food and Drug Administration (FDA) policy of reproductive control. I contextualize the FDA policy with reference to scholarship on the political management of the global HIV/AIDS crisis (Patton, 1991) as an "epidemic in signification" (Treichler, 1987) that fundamentally transformed popular and scientific thinking on genetics, sexuality, race, heritability, family and society. The role of the HIV/AIDS crisis in determining the clinical protocols for handling sperm has been well noted across studies of assisted reproduction (Swanson, 2014, Almeling, 2011). I deepen the observation though, often made in passing in these studies, that the heteronormative cultural coding of sperm donor profiles today is largely indebted to a racialised reproductive imaginary consolidated through the popular authoritarian management of the HIV/AIDS crisis. Following scholarship on "repro-sexual intersections" (Pralat, 2014), this chapter considers the structural link between the *viral* replication of fertility visuals across the ART interface –baby faces, doctors in white coats, pregnant women without heads and double helixes– and the political management of the human immunodeficiency *virus*.

GAY GAMETE (2000):
NET ART, CYBERFEMINISM AND
THE POLITICS OF INFECTION

Gay Gamete (2000) is a work of Net Art developed by the U.S contemporary artist and photographer Clover Leary. Throughout the late 1990s and early 2000s Clover Leary's interdisciplinary practice considered questions of sexuality and normalization. Together with artists Heather Cassils and Julia Steinmetz, she formed part of the Los Angeles based feminist collective Toxic Titties, whose performance and video works similarly investigated the domestication and privatization of LGBT identities and practices.[39] Clover Leary's

Gay Gamete (2000) emerges at the intersection of the 1990s Net Art movement and a wider pool of artistic and performative interventions that address the commercialization of biotechnologies. While works like Faith Wilding and Hyla Willis' *SmartMom* (1999) or Critical Art Ensemble's *Intelligent Sperm On-Line* (1999) combined tactical media disobedience with social intervention (Wilding & Willis, 2016), the performativity of *Gay Gamete* for the most part exists only online. Net Art[40] works often feature some modification of the browser experience to expose the social, political and technical functioning of particular web technologies. At the time of *Gay Gamete's* publication in 2000, many Net Art creators were experimenting with a range of coding languages and fusing programs to alter the online experience in psychedelic ways.[41] As a hyperlinked site with basic text and image content, *Gay Gamete* is quite straightforward: a normal web experience, which perhaps accounts for the artwork having been scarcely anthologized in art historical accounts of both the Net Art and cyberfeminist art movements. The project is mentioned in a footnote in Rachel Greene's (2004) compendium *Internet Art* (p. 96) but is absent from subsequent prominent Net Art anthologies (Bosma, 2011; Connor et al., 2019; Cornell & Halter; Daniels & Reisinger, 2009; Dekker, 2018; Respini, 2018; Tavin et al., 2021) and commentaries on the history of cyberfeminist art (Barnett, 2014; Seu, 2023; Sollfrank, 2002; Zafra & López Pellisa, 2019).

A defining characteristic of contemporaneous Net Art, cyberfeminist art and the tactical media movements is the parodying of corporate visuality. In *Intelligent Sperm On-line* (1999), U.S art collective Critical Art Ensemble intervene in a university campus to,

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39 Toxic Titties' work *Ikea Project* (2001), for example, critiques and parodies the sexual and gender politics of mainstream representations of domesticity through a combination of installation, interviews and video.

40 Art historians sometimes conflate 'net.art' with 'software art', 'Internet Art', 'Network Art', and 'post-internet art'. I follow US cataloging project Rhizome, who today uses the unpunctuated term Net Art to refer to any work of art in the past or present 'that acts on the network, or is acted on by it'. See: Rhizome, Retrieved Dec 3, 2021 from https://rhizome.org/editorial/2017/jun/13/what-is-net-art-a-definition.

41 For example, I.O.D's *Web Stalker* (1997); Jonah Bruker-Cohen's *Crank the Web* (2001); Cornelia Sollfrank's *Female Extension* (1997).

pose as the fertility clinic BioCom, allowing one of its customers at the home office to look over the audience and pick out a donor she likes. In the audience is a confederate, who is chosen, offered cash for his sperm, and agrees to donate. The rest of the performance is the audience reaction.

Intelligent Sperm On-line performs the liberal eugenics of assisted reproduction, as expressed in the pressures to choose the "most intelligent" donor, in order to critique the same liberal eugenics discourse. A similar tactic is deployed by the arts and technology collective Mongrel, who hacked a version of the image editing software Photoshop to create a modified version. The project used ResEdit (Resource Editor), which was a program used by developers to produce and modify the interface 'resources' in programs for MacOS at the time. Reader-users of the modified program, which they called *Heritage Gold* (1997), are invited to "edit their new family" via a series of drop-down menus where different categories for "social status" and "racialization" may be selected and where "immigration status" can be "configured". The program offers the opportunity to "flip historical relations on head" and click to "rotate world view": the new program copies, but also modifies, the literal interface between liberal eugenics and direct manipulation as it is normally organized at the level of the interface.

Gay Gamete (2000) does something similar to *Intelligent Sperm On-Line* (1999) and *Heritage Gold* (1997) as it parodies the ART industry's most banal visual and rhetorical tropes: micrographs of eggs and sperm; micromanipulator tools injecting oocytes; doctors clad in scrubs; images of reception areas; smiling baby faces; the twisting double helix of DNA and the discursive linking of fertility to "the future", "security", "investment" and "insurance". Yet *Gay Gamete* calls for what no commercial fertility clinic has ever advertised for: gay, and only gay, donors. Visitors to the site read that, "Thousands of us have already succeeded in donation. We have done our part to ensure a gay future, so must you, the very survival of our race depends upon your quick action" (Gay Gamete, 2000).

One of the main sites of *Gay Gamete's* parodic intervention is the "you" and "yours" of both dominant fertility discourse and the commercial Internet at large. The project performs a radical homosexualizing of the Internet's normalized lyrical address. The question

FIGURE 8. Homepage. Gay Gamete, (2000). Image courtesy Clover Leary.

of lyrical address is key in the context of personal computing. In a study of software as both a legal object governed by patents and financial instruments and as an accumulation of technical and social practices that constitute and transform the materiality of human memory, Wendy Hui Kyong Chun (2011) writes, "Computer programs shamelessly use shifters – pronouns like 'my' and 'you' – that address you, and everyone else, as a subject" (p. 67). The "you" of personal computing and the commercial Internet is intentionally both flexible and stratified: you are both an individual person and a target population. *Gay Gamete* though is more specific, and the homepage addresses the gay you: "Don't let *your* Gay DNA get left behind" (Gay Gamete, 2000). Clover Leary deploys parody via a logic of infection.

Scholarship on queer art has often invested the queer artwork with the capacity to "infect" the dominant culture (Halberstam, 2011; Lorenz, 2012). In her essay *Politics of Infection* (2014), Chilean critic Fernanda Carvajal details the performance and video interventions of Peruvian art collective Grupo Chaclacayo and Giuseppe Campuzano as they manifested transfeminist resistance to the forces of authoritarianism and terror in 1990s Lima. The essay refers to Queer Theory scholarship that draws on an intellectual tradition of critiquing the political and cultural management of the HIV/AIDS crisis across the globe (Meruane, 2012; Patton, 1991; Treichler, 1987).

FIGURE 9 & 10. Images: (Top) Eggs. Gay Gamete, (2000). Image courtesy Clover Leary; (Bottom) Sperm. Gay Gamete (2000). Image courtesy Clover Leary.

Similarly critiquing the limits of philosophical conceptualization of viruses as passive "products of globalization and conquest as well as computer security and digital control [and] dead ends for radical politics", U.S critic and artist Zach Blas (2012) reads the work of collectives like the Electronic Disturbance Theater and Queer Technologies

as they "use the virus as an anticapitalist tactic" (p. 30). The performance work *How to Write a Tropical Disease, How to Write a Manifesto* (2016) by feminist performance collective diásporas críticas, consisted of a reading of quotes of archival documents sourced from the Guayaquil Historical Archive pertaining to neocolonial hygiene campaigns in the city of Guayaquil between 1890-1919, as well as quotes from the work of various poets and activists from the 19th, 20th and 21st century, whose work has responded to the moral and social dimensions of early hygiene discourses. The work –as both archival research project and performative artistic response– considers the lasting impact of the scientific and social construction of narratives of contagion on present life in city centers and situates gentrification as part of a historical trajectory of social control and surveillance of public space that flourished particularly in the context of epidemics in the 19th century. Taking place in the city of Guayaquil, Ecuador, the work mobilized *transmission* as a mode of action via the *contagious* literary form of the *manifesto-poem*.[42] As the Cuban artist Felix Gonzalez Torres once said, "All the ideological apparatuses are replicating themselves, because that's the way culture works. So if I function as a virus, an imposter, an infiltrator, I will always replicate myself together with those institutions" (Gonzalez-Torres as cited in Chambers-Letson, 2010, p. 559).

While infection, transmission, contagion, the virus and the viral have distinct genealogies across the fields of medicine, psychoanalysis and computer science, they have all been reappropriated by artists and collectives globally, not only as metaphors but as modes of response. This viral tactic might also be called "No", as it was articulated by the poet Anne Boyer in her 2017 essay of the same title:

> take what is, and turn it upside down. Or take what is and make it what isn't. Or take what isn't and make it what is. Or take what is and shake it till change falls out of its pockets. Or take any hierarchy and plug the constituents of its bottom into the categories of its top. Or take any number of hierarchies and mix up their parts.

[42] I was part of this collective between 2014-2016 and co-authored an article elaborating on the historical relationship between contagion and the manifesto text as a literary and political mode of action (Cisneros & Close, 2018)

It is by "taking what isn't and making what is" that Gay Gamete *infects* both dominant fertility discourses and "normal" lyrical address of the commercial Internet.

THE GAY GENE DEBATE
AND VIRAL HETERONORMATIVITY

Gay Gamete adopts a viral tactic of infection as a response to the virality of heteronormativity, radically intensified during the HIV/AIDS crisis. Concretely, the Net Art project responds to a specific Food and Drug Administration (FDA) policy that advised clinics against accepting gay donors. As *Gay Gamete* states:

> The FDA has been in the process of promulgating national regulations that would prohibit clinics from accepting sperm from homosexual applicants since 1999. (Gay Gamete, 2000).

In 2004 these guidelines were approved and despite various calls across the U.S to withdraw it over the last two decades, as of January 2020 the FDA and American Society for Reproductive Medicine (ASRM) still recommends that banks reject the applications of: "Males with a history of sex with another man, or females with a history of sex with a male who has had sex with another male in the preceding 5 years." (ASRM, 2020). By the early 2000s the combination of highly active antiretroviral therapy (HAART), in use from 1996 onwards, and cryopreservation techniques –which enables the sperm to be quarantined for 6 months at which point the donor would be tested again– already facilitated a person living with HIV to donate safely or to have children without a high risk of transmission (Kuji et al., 2007; Pralat, 2015). Furthermore, innovations in sperm washing were being developed all the time, and doctors in Italy had, as early as 1992, developed a sperm processing protocol that could isolate infected spermatozoa from the rest of the specimen enabling heterosexual couples where the male partner was HIV positive to get pregnant (Semprini et al., 1992). The FDA's decision to regulate donors must therefore be understood beyond the framework of disease prevention and in the context of the charged debates across scientific research and popular media regarding the existence

of the gay gene. Indeed, the gay gene debates would structure the reproductive imaginary for decades to come.

The idea that all the information about the human body and human behavior is biologically predetermined stems from the genotype/phenotype distinction first introduced by Swedish botanist Wilhelm Johannsen's (1911), who defined the genotype as "the sum total of all the 'genes' in a gamete or in a zygote" (p. 132-3). Johannsen (1911) also coined the word "gene", but remained intentionally ambiguous in his theories of the hereditary as to what exactly a gene is, stating that: "the nature of 'genes' is as yet of no value to propose any hypothesis" (p. 133). By the 1930s, however, the gene was enclosed as a "material entity: the biological analogue of molecules and atoms of physical science" (Fox Keller, 2000, p. 2). The discovery of DNA in the 1950s and its conceptualization as a program that switches on and off traits, seemed to further cement the entity of the gene as an object of study and in particular the material origin of the phenotype. The cold-war invention and medicalizing of gender through the clinical practices and experiments of physicians like John Money (Preciado, 2017; Popa, 2021) informed the legitimization of genetics as a science of difference: during the cytogenetic studies of the Y chromosome of the 1960s and 70s, "among U.S geneticists, the notion that genetics could explain individual behavior was professionally and institutionally on the rise" (Richardson, 2013, p. 89). This research into the genetic basis of gender pursued genetic evidence for character traits such as aggression or submissiveness, a line of thinking that would later condition the 1990s search for "the gay gene". Despite the fact the Human Genome Project had, on the contrary, disrupted early 20th century understandings of the gene as a reliable object of study (Fox Keller, 2000), geneticists in the 1990s began to seek evidence for a genetic basis to sexual orientation (Bailey & Pillard, 1991; Hamer et al., 1993), assuming once again "the gene to be a structural biological unit, a molecule that in some way determines behavior or identity" (Griffiths, 2016, p. 515). Heteronormativity, as a set of connected beliefs about gender, reproduction and sexual orientation, was radically agitated, in this sense, during the HIV/AIDS crisis. The presupposition that heterosexuality and a male-female gender binary is the "normal" human default found new political support from governmental administrations, scientific research and the media, cementing hierarchies of value and visibility that accelerated "pyramids of sexual oppression"

(Rubin, 1984) manifesting in legal prohibitions and protocols such as the FDA regulation that *Gay Gamete* protests. In the context of assisted reproduction, the legacies of heteronormative genetics research came to fundamentally fashion the reproductive imaginary: viral heteronormativity is an aspect of the racial politics of liberal eugenics that posit the human body as a site of both social experimentation and biological control to be managed through "personal choice".

SOCIAL REPRODUCTION AND FIXED CAPITAL: DESKILLING, VIRAL TRAVELS AND THE INTERFACE AS A SITE OF HISTORICAL AND MATERIAL STRUGGLE

There is one obvious way in which the HIV/AIDS crisis transformed the fixed capital infrastructure of the fertility industry: after the HIV/AIDS crisis cryopreservation was introduced globally as a disease prevention measure and clinical sperm donation practices were altered forever, leading to the development of the commercial banking infrastructure. As Robert Pralat (2014) writes, "HIV/AIDS *helped* to expand the industry by encouraging the use of cryopreservation" (p. 214) [emphasis added].

The idea of a sperm bank dates to the 19th century when Italian physician Montegazza discovered that human sperm could survive at temperatures below -15 degrees Celsius (Chian & Quinn, 2010). It wasn't until glycerol was discovered accidentally in the 1950s that experiments in cryobiology and cryopreservation became more widespread. As Kara Swanson writes (2014), "after years of medical indifference to frozen semen as a medical therapeutic, AIDS transformed semen into a body product that required a bank for safe exchange" (p. 227). It was as a result of the HIV/AIDS crisis that sperm donation developed as a *cryopreservation banking infrastructure*, with all of the forms of classification and cataloging that a bank, as an archive, generates. This is the most obvious way in which a queer reproduction struggle came to be incorporated as aspects of infrastructure, software and fixed capital of fertility.

Yet there is another way in which the HIV/AIDS crisis transformed the fixed capital infrastructures of fertility. The viral repetition

of heteronormativity might be seen as a key effect of the normalization of the Internet interface. Conversely the fertility industry's website –as fixed capital– can be seen as the material manifestation of viral heteronormativity. This dynamic relationship between the website and sexuality can be observed across the transformations to general interface design throughout the 2000s, as the Internet becomes increasingly a site of direct accumulation in, but also beyond, the context of assisted reproduction. In 2007 European Sperm Bank's donor catalog was a simple spreadsheet.[43] Today the use of filtered searches and drop-down lists tends to obscure the reader's understanding of the structures of classification, which in turn naturalizes the categories of identification used. The subjective experience is one of increasing immersion, intensified by the endless scrolling that characterizes the commercial Internet interface and social media today.

FIGURE 11. Sketch of "fictitious donor profile" from Cryos International Sperm Bank Ltd. (Denmark) 1998 website. See entry for January 22, 1998 for www.cryos.com via: https://web.archive.org/

43 See entry for June 8, 2007 for https://www.europeanspermbank.com via: https://web.archive.org/
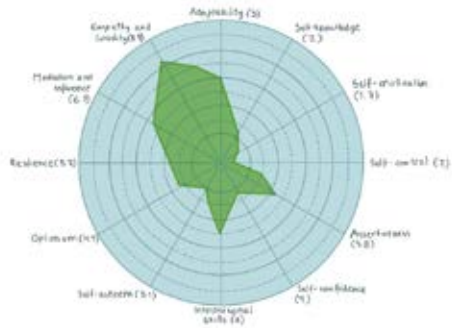
OZ's personality graph

FIGURE 12. Sketch of (anonymized) "Oz's personality graph" from Cryos International (Denmark) 2022 website. See www.cryosinternational.com

The donor menu featured on the 1998 version of the site of Danish sperm bank Cryos International Sperm Bank Ltd. was a list of a few lines.[44] Today the company's donor catalogue is a topographic grid with project cards populated by buttons that take the viewer through to handwriting samples, audio files and data-visualizations of the results of Emotional Intelligence tests and personality evaluations. In 1997 California Cryobank Inc. presented its entire donor catalog as four spreadsheets, accessible through hyper-linked tabs differentiated by four racial classifications. The columns of each spreadsheet included an ID number, education and whether the donor had produced a successful pregnancy yet. Today, users enter the catalog via avatars: 'MAN OF MANY TALENTS'; 'MUSICAL ALADDIN'; 'COMPETITIVE SCIENTIST'; 'SIMPLY AMAZING'; HANDSOME HAITIAN AMERICAN'; 'OPERA SINGER'; 'BILINGUAL BRAINIAC'. The cultural scripts of heteronormativity collide with the visual and textual forms of address of the interface in ways that affirm "hegemonic masculinities"

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[44]   See entry for August 19, 1998 for https://www.cryosinternational. com via: https://web.archive.org/

(Bokek-Cohen, 2016) and consolidate the fertility industry as an essentially "heteronormative business" (Lafuente-Funes, 2019). Or rather, these website features have developed in relation to the genetic determinism of the discourse on race and sex that characterizes post-HIV/AIDS assisted reproduction.

   In *The Reification of Desire* (2009) Queer Marxist critic Kevin Floyd traces the processes through which epistemologies of difference and regimes of sexual knowledge can become "hegemonic" through market forces that facilitate "deskilling". Deskilling occurs when "access to sexual, temporal knowledge of the self is to be had only through commodity exchange" (p. 55). The viral heteronormativity of the nuclear family is a significant example of deskilling: a process through which social knowledge forged in the context of social reproduction struggles is transformed into products that can be accessed for a fee. California Cryobank today charge different fees to access different intensities of information regarding the social and medical backgrounds of their donors: Level 1 is free and includes a Genetic Test Summary, Donor Profile, Medical History, DNA Ancestry report, Donor Personal Essay and a Staff Impressions section. An extra payment of USD$145 grants access to Level 2, where the user can access an extended donor profile, childhood photos and a donor keepsake: a message written by the donor that the user can access but only when they are pregnant. Level 3 costs USD$250 and includes all the level 2 items plus a facial features report. The vials of sperm themselves cost $985 for anonymous donors and USD$1,130 for full ID disclosure. Danish bank Cryos International similarly offers four options to access donor info from between EU€ 828.00– 1,332.00; and Instituto de Reproducción CEFER in Barcelona offers a choice between "Classic Semen", which has undergone chromosome testing and basic analytics (karyotypic, Cystic Fibrosis, Beta Talasemia) and "Genetic Semen" which has been screened for 18 genetic disorders. They also offer "Compatibility Semen" that "assures genetic compatibility between you and your donor." "Premium Semen" furthermore promises to combine all three and includes an "extended profile of information about tastes and hobbies." What is most banal about any particular biogenetic profile is also what the companies think will attract clients, whose mechanisms of recognition are being worked on: racism, ableism, classism and heteronormativity emerge in this context as strategies of accumulation precisely because they

are easily reproducible as software fixed capital.[45] The predictable ways in which "bodily capacities assume the epistemological form of a complexly scientifically signifying system" (Floyd, 2009, p.44) is what makes liberal eugenics commercially viable. In this context of the viral repetition of "normalcy", equality demands to "access" ARTs are simply incorporated as a mechanism for the social reproduction of ableism, classism, racism and heteronormativity. As Jasbir Puar (2014) notes, this operates far beyond a single market context: the legal and territorial securing of LGBT "access" (to reproductive rights, private property transmission and consumer markets) in general almost always arrives concomitant with "the curtailing of welfare provisions, immigrant rights and the expansion of state power to engage in surveillance, detention and deportation." (p.25). Progressive equality discourse, including LGBT access rights, operates more than ever today as an optical stunt, a means of managing the visibility of differentiated reproductive politics struggles through the circulation of content –headlines, information, regimes of sexual knowledge, interface design, videos, images and even theory –that circulates virally. These "viral travels" end up "mutating" the impact of the contents (Puar, 2014, p.42), which makes the capacity for repetition, and the technical forms through which each iteration is achieved, as significant as the content's claims to criticality or scientific facticity. As donor profiles mutate increasingly from brief lists into immersive multimedia experiences, "folk beliefs, expressed as popular eugenics are not discouraged as unscientific [...] but encouraged" (Swanson, 2014, p.231). While *Gay Gamete's* proposal might be summarized as *it doesn't matter that there is no gay gene*, *this is political,* by con-

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45   The Marxist historian Marc Bloch (1967) provides ample reasons for why the banal should not be overlooked in studies and critiques of capitalism. Far from the resonances that the banal has with the non-descript today, in 13th century mediaeval France the *banalités* were small payments or "seigniorial rights" made to the *ban* –the ruling elite– in order to use technologies of subsistence such as baking ovens, horses and mills for grinding grain. Access to technologies of subsistence was restricted via the *ban*'s monopolies (p.152). The *banalités* are an example of the processes under capitalism through which people are dispossessed of knowledge and skills that are then sold back for a fee, which, read together with Floyd's notion of "deskilling" as implicating the commodification of "sexual, temporal knowledge of the self", facilitates a reading of the *banality* of fertility discourse.

trast, and from the perspective of the commercial entities that constitute the global assisted reproductive technology market, projected to reach $45.06 billion USD by 2026 (Fortune Business Insight, 2021), *it doesn't matter that there is no heteronormative gene, this is business.*

As detailed above, the reproductive imaginary of assisted reproduction is structured by *viral heteronormativity* and a genetic determinism accelerated during the HIV/AIDS crisis. The ART interface is characterized in this sense by its capacity to circulate outdated epistemologies of bodily difference, transforming self and collective social knowledge into commodities. The interface is a site of commodification, yet, over time, commodity production transforms infrastructure too: add-ons are quickly absorbed as structure and technical functions –biogenetic drop-down menus, live embryo surveillance, interactive personality graphs and facial-matching algorithms– become the "fixed" landscape of fertility.

NET ART HORIZONS BEYOND PARODY?

Clover Leary's *Gay Gamete* (2000), like Mongrel's *Heritage Gold* and Critical Art Ensemble's *Intelligent Sperm On-line* (1999), insert the liberal eugenics of contemporary biomedicine and assisted reproduction into a wider public forum. Both *Heritage Gold* and *Gay Gamete* valuably detail the combined performative, visual, poetic and *computational* dimension of liberal eugenics discourse, underscoring how computer programs and Internet interfaces are key sites of epistemic, historical and material struggle. This emphasis on the computer program and Internet interface as a theme and mode of artistic response within contemporary reproductive politics is a welcome and innovative contribution to both the sociology and history of reproductive technologies and Queer and Feminist theories of social reproduction after the Internet. The role of parody, as a politics of infection, is key to the structure of these critiques. In literary theory parody is distinguished from satire as the former is a mechanism of material appropriation and an *imitative* mode of inscription. Where satire mocks its target from a constructed outside, parody is said to depend on incorporating the original material into or as the new work. Parody, more than satire, productively blurs the boundaries between inside/outside, resistance/complicity, object/subject, past/present: parody "by

its very doubled structure, is very much an inscription of the past in the present" and therefore "brings to life actual historical tensions" (Hutcheon, 1985, p. 37). Particularly to the extent that *Gay Gamete* responds to, and informs the viewer directly about, the FDA protocol, the work not only *materializes* liberal eugenics but powerfully *historicizes* this discourse as it is sustained by specific medical institutions, legislation and epochs of scientific research. Against the virality of liberal eugenics and heteronormativity, these works replicate and transform; copy and hack; re-perform and critique.

In November 2011 an anonymous author posted to a thread labeled "infertility support and discussion" on U.S site *dcurbanmom.com* forum:

> I don't hate anyone but come on! I was doing a search about sperm banks or cryobanks and came across the following: (Note the part about keeping their gene and the agenda going.) I initially thought this was a joke website, but this is serious. People are being advised to be deceptive. (Dcurbunamom, 2011).

The link leads to Gay Gamete.com, whose welcome message reads:

> The Gay Gamete Project was developed as a means to ensure the genetic survival of homosexuality; to assure that the decline in homosexual procreation does not result in our eventual extinction.

The post received a number of anonymous replies: "This is just so wrong on so many levels"; "This is just sick?" "I hate to say it but I'm sure that at least some egg and sperm donors lie about previous mental illness, sexual orientation, cosmetic surgery, etc."; "I know anyone can lie at any time and for any reason, but this is an organized effort to target those folks who are the most vulnerable due to infertility." Another anonymous author clarifies: "this was an art project done by an artist called Clover Leary. Meant to stir just this type of response" (Dcurbanmom, 2011). The disclosure of *Gay Gamete* as an art project, far from quelling concerns invites further discussion: "parody or not, some nut jobs are doing exactly as they suggest. What's to stop them?"; "why is it so sick, you don't want a baby

whose sperm donor is gay? Lame."; "As a research biologist I can tell you there is no gay gene" (Dcurbanmom, 2011). Nearly a decade after *Gay Gamete's* publication, the work still has the power to infect. This is perhaps because the fertility tropes that *Gay Gamete* excerpted in the year 2000 have become *more*, not less, common across the fertility services industry today. This begs the question of whether the disobedient force of a Net Art work *as a parody* is somewhat capped by the general *parodic landscape* of racial capitalism's normalized liberal eugenics, which has only accelerated since 2000 and especially online. On one hand, *Gay Gamete's* call to lesbians and gays to "ensure a gay future" would still constitute a serious insurrection of those state and private institutions –clinics, banks, national regulating bodies, associations, the media– that compound contemporary reproductive control. The 2019 opening in New Zealand of the world's first HIV positive sperm bank called "Sperm Positive" is just one example of the non-parodic work necessary to destigmatize queer and/or HIV positive (assisted) reproduction.[46] On the other hand, *Gay Gamete's* joke call to "invest in genetic futures" strikes an uneasy resonance with what Lisa Duggan (2002) has since theorized as "the new homonormativity", which,

> comes equipped with a rhetorical recoding of key terms in the history of gay politics: 'equality' becomes narrow, formal access to a few conservatizing institutions, 'freedom' becomes impunity for bigotry [...] 'the right to privacy' becomes domestic confinement. (p.186)

The Net Art works developed and introduced in the next chapter further elaborate on this question of the (im)possibility of Net Art horizons beyond parody.

In this chapter I have considered Clover Leary's Net Art work *Gay Gamete* (2000) as a response to the *viral heteronormativity* of fertility discourse and the normalized lyrical address of the commercial internet. I also historically and materially situated viral heteronormativity in relation to the pathologization of sexualities and sexual practices through scientific research and popular media

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[46]   Their website states how, "on January 27th, 2021, the first baby from an HIV positive sperm bank was born." (Sperm Positive Website, 2023).

representations which, during the HIV/AIDS crisis and the research context of the Human Genome Project, took on a genetic dimension. I also showed how epistemologies of difference profoundly structured the racial sensibility of the gay gene debates and impacted the material infrastructures of assisted reproduction for decades to come. This chapter thus considers the legacy of the ongoing HIV/AIDS crisis on the digital infrastructures and interfaces of the fertility industry and further details how social knowledge forged in the context of queer reproduction struggles accumulates over time as fixed capital. So far this thesis has affirmed one of 19th century Marxism's most innovative insights: that neither capital nor labor are "things" but processes involving connected circuits of production, reproduction and value, structured by overaccumulation, interruption, devaluation, delays and crisis (Marx, 1978, p. 181). This dynamic field of social and material struggle plays out, after the Internet this thesis argues, at the level of the interface. The next chapter presents works in poetry, video and Net Art that deepen this reclaiming of the interface, network and viral as themes and modes of artistic response.